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ZAHN, Ralph
ALTAMIRANO, Myriam M.

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Pro Arg Gly Ser
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Glu Gly Met Gln Phe Asp Arg Gly Tyr Leu Ser Pro Tyr Phe Ile Asn
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Lys Pro Glu Thr Gly Ala Val Glu Leu Glu Ser Pro Phe Ile Leu Leu
            20   25   30

Ala Asp Lys Lys Ile Ser Asn Ile Arg Glu Met Leu Pro Val Leu Glu
            35   40   45

Ala Val Ala Lys Ala Gly Lys Pro Leu Leu Ile Ile Ala Glu Asp Val
        50   55   60

Glu Gly Glu Ala Leu Ala Thr Leu Val Val Asn Thr Met Arg Gly Ile
65   70   75   80

Val Lys Val Ala Ala Val Lys Ala Pro Gly Phe Gly Asp Arg Arg Lys
                85   90   95

Ala Met Leu Gln Asp Ile Ala Thr Leu Thr Gly Gly Thr Val Ile Ser
            100   105   110

Glu Glu Ile Gly Met Glu Leu Glu Lys Ala Thr Leu Glu Asp Leu Gly
            115   120   125

Gln Ala Lys Arg Val Val Ile Asn Lys Asp Thr Thr Thr Ile Ile Asp
    130   135   140

Gly Val Gly Glu Glu Ala Ala Ile Gln Gly Arg Val Ala Gln Ile Arg
145   150   155   160

Gln Gln Ile Glu Glu Ala Thr Ser Asp Tyr Asp Arg Glu Lys Leu Gln
                165   170   175

Glu Arg Val Ala Lys Leu Ala Gly Gly Val
            180   185

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Leu Arg Gly Val Asn Val Leu Ala Asp Ala Val Lys Val Thr Leu Gly
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Pro Lys Gly Arg Asn Val Val Leu Asp Lys Ser Phe Gly Ala Pro Thr
            35   40   45

Ile Thr Lys Asp Gly Val Ser Val Ala Arg Glu Ile Glu Leu Glu Asp
        50   55   60

Lys Phe Glu Asn Met Gly Ala Gln Met Val Lys Glu Val Ala Ser Lys
65   70   75   80

Ala Asn Asp Ala Ala Gly Asp Gly Thr Thr Thr Ala Thr Val Leu Ala
                85   90   95

Gln Ala Ile Ile Thr Glu Gly Leu Lys Ala Val Ala Ala Gly Met Asn
            100   105   110

Pro Met Asp Leu Lys Arg Gly Ile Asp Lys Ala Val Thr Ala Ala Val
            115   120   125

Glu Glu Leu Lys Ala Leu Ser Val Pro Cys Ser Asp Ser Lys Ala Ile
    130   135   140

Ala Gln Val Gly Thr Ile Ser Ala Asn Ser Asp Glu Thr Val Gly Lys
145   150   155   160

Leu Ile Ala Glu Ala Met Asp Lys Val Gly Lys Glu Gly Val Ile Thr
                165   170   175

Val Glu Asp Gly Thr Gly Leu Gln Asp Glu Leu Asp Val Val Glu Gly
                180   185   190

Met Gln Phe Asp Arg Gly Tyr Leu Ser Pro Tyr Phe Ile Asn Lys Pro
        195   200   205

Glu Thr Gly Ala Val Glu Leu Glu Ser Pro Phe Ile Leu Leu Ala Asp
    210   215   220

Lys Lys Ile Ser Asn Ile Arg Glu Met Leu Pro Val Leu Glu Ala Val
225   230   235   240

Ala Lys Ala Gly Lys Pro Leu Leu Ile Ile Ala Glu Asp Val Glu Gly
                245   250   255

Glu Ala Leu Ala Thr Leu Val Val Asn Thr Met Arg Gly Ile Val Lys
                260   265   270

Val Ala Ala Val Lys Ala Pro Gly Phe Gly Asp Arg Arg Lys Ala Met
        275   280   285

Leu Gln Asp Ile Ala Thr Leu Thr Gly Gly Thr Val Ile Ser Glu Glu
        290   295   300

Ile Gly Met Glu Leu Glu Lys Ala Thr Leu Glu Asp Leu Gly Gln Ala
305   310   315   320

Lys Arg Val Val Ile Asn Lys Asp Thr Thr Thr Ile Ile Asp Gly Val
                325   330   335

Gly Glu Glu Ala Ala Ile Gln Gly Arg Val Ala Gln Ile Arg Gln Gln
        340   345   350

Ile Glu Glu Ala Thr Ser Asp Tyr Asp Arg Glu Lys Leu Gln Glu Arg
        355   360   365

Val Ala Lys Leu Ala Gly Gly Val Ala Val Ile Lys Val Gly Ala Ala
    370   375   380

Thr Glu Val Glu Met Lys Glu Lys Lys Ala Arg Val Glu Asp Ala Leu
385   390   395   400

His Ala Thr Arg Ala Ala Val Glu Glu Gly Val Val Ala Gly Gly Gly
            405   410   415

Val Ala Leu Ile Arg Val Ala Ser Lys Leu Ala Asp Leu Arg Gly Gln
            420   425   430

Asn Glu Asp Gln Asn Val Gly Ile Lys Val Ala Leu Arg Ala Met Glu
            435   440   445

Ala Pro Leu Arg Gln Ile Val Leu Asn Cys Gly Glu Glu Pro Ser Val
            450   455   460

Val Ala Asn Thr Val Lys Gly Gly Asp Gly Asn Tyr Gly Tyr Asn Ala
465   470   475   480

Ala Thr Glu Glu Tyr Gly Asn Met Ile Asp Met Gly Ile Leu Asp Pro
            485   490   495

Thr Lys Val Thr Arg Ser Ala Leu Gln Tyr Ala Ala Ser Val Ala Gly
            500   505   510

Leu Met Ile Thr Thr Glu Cys Met Val Thr Asp Leu Pro Lys Asn Asp
            515   520   525

Ala Ala Asp Leu Gly Ala Ala Gly Gly Met Gly Gly Met Gly Gly Met
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Gly Gly Met Met
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Asn Lys Pro Glu Thr Gly Ala Val Glu Leu Glu Ser Pro Phe Ile Leu
            20   25   30

Leu Ala Asp Lys Lys Ile Ser Asn Ile Arg Glu Met Leu Pro Val Leu
            35   40   45

Glu Ala Val Ala Lys Ala Gly Lys Pro Leu Leu Ile Ile Ala Glu Asp
      50   55   60

Val Glu Gly Glu Ala Leu Ala Thr Leu Val Val Asn Thr Met Arg Gly
65   70   75   80

Ile Val Lys Val Ala Ala Val Lys Ala Pro Gly Phe Gly Asp Arg Arg
                  85   90   95

Lys Ala Met Leu Gln Asp Ile Ala Thr Leu Thr Gly Gly Thr Val Ile

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                    100                 105                 110
Ser Glu Glu Ile Gly Met Glu Leu Glu Lys Ala Thr Leu Glu Asp Leu
        115                 120                 125

Gly Gln Ala Lys Arg Val Val Ile Asn Lys Asp Thr Thr Thr Ile Ile
        130                 135                 140

Asp Gly Val Gly Glu Glu Ala Ala Ile Gln Gly Arg Val Ala Gln Ile
145                 150                 155                 160
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<220>
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<222> (5)
<223> Amino acid 5 is Ile, Leu, Val, Pro or Ala

<220>
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<222> (8)
<223> Amino acid 8 is Leu, Glu, Val, His or Ile

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<222> (9)
<223> Amino acid 9 is Glu, Ala, Arg, Leu, Gln or Asn

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 1   5   10   15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            20   25   30

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
        35   40

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<213> Escherichia coli

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 1   5   10   15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Glu Xaa Xaa Ala Thr
            20   25   30

Xaa Val Val Asn Xaa Xaa Arg Xaa Ile Val
        35   40

<210> 14
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<213> Escherichia coli

<220>

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<223> Amino acid 6 may also be Ser

<220>
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<223> Amino acid 9 may also be Ile

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Pro Leu Leu Ile Ile Ala Glu Asp Val Glu Gly Glu Ala Leu
    1               5               10


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<212>  PRT
<213>  Escherichia coli

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<400> 15

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1   5   10

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<222>  (23)..(23)
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<221>  VARIANT
<222>  (30)..(30)
<223>  Xaa is any amino acid

<220>
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<400>  16

Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
1               5                   10                  15


Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
            20                  25                  30


<210>  17
<211>  10
<212>  PRT
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<213> Escherichia coli

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<223> Xaa is at least one amino acid

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1   5   10

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Xaa Ala Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
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Xaa Glu Xaa Xaa Ala Thr Xaa Val Val Asn Xaa Xaa Arg Xaa Ile Val
            20   25   30